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Docket No.: 13735 US1 (C038435/0176432)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : )  
Akira ASAKURA, *et al.* )  
Serial No.: 10/802,682 ) Examiner: not yet assigned  
Filed: March 17, 2004 ) Art Unit: 1646  
For: **NOVEL ALCOHOL/ALDEHYDE** )  
**DEHYDROGENASES** )

New York, New York  
June 22, 2004

INFORMATION DISCLOSURE STATEMENT UNDER RULE 1.56

Mail Stop Amendment  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicants wish to make of record the following documents (Form PTO-1449 is enclosed). Copies of these documents are not being submitted herewith because each was made of record in the Parent Application Serial No. 09/470,667 filed December 22, 1999, now U.S. Patent 6,730,503 which is a divisional of Application Serial No. 08/934,506, filed September 19, 1997, now abandoned, to which the present application claims priority under 35 USC §120. 37 CFR §1.98(d).

U.S. PATENT DOCUMENTS

A1	3,234,105
A2	3,912,592
A3	4,960,695
A4	5,437,989
A5	5,352,599

A6 5,541,108

#### FOREIGN PATENT DOCUMENTS

B1 JP 51-40154  
B2 EP 0 221 707  
B3 EP 0 278 447  
B4 EP 0 606 621  
B5 EP 0 366 922  
B6 EP 0 645 453  
B7 EP 0 448 969 A2

#### OTHER DOCUMENTS

- C1 Zizheng, et al., "Studies on Production of Vitamin C Precursor 2-Keto-L-Gulonic Acid From L-Sorbose by Fermentation," Acta Microbiologica Sinica, 21(2): pp. 185-191 (1981).
- C2 English language abstract of JP 51-40154 (document B1).
- C3 Rudinger, "Characteristics of the amino acids as components of a peptide hormone sequence," In: Peptide Hormones, Ed. J.A. Parsons, University Park Press, Baltimore, MD, pp. 1-7 (1976).
- C4 Ngo, et al., "Computational complexity, protein structure prediction, and the Levinthal paradox," In: The Protein Folding Problem and Tertiary Structure Prediction, Eds. Merz, et al., Boston, MA, pp. 491-495 (1994).
- C5 Thornton, et al., "Protein Engineering: Editorial Overview," Current Opinion in Biotechnology, 6(4): 367-369 (1995).
- C6 Wallace, "Understanding cytochrome c function: engineering protein structure by semisynthesis," The FASEB Journal, 7: 505-515 (1993).
- C7 Maniatis, et al., Chapter 12: "Vectors that express cloned DNA in *Escherichia coli*," In Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Laboratory Press, pp. 404-433 (1982).
- C8 Matsudira, "Limited N-terminal sequence analysis," Methods in Enzymology, 182: 602-613 (1991).
- C9 Wozney, "Using purified protein to clone its gene," Methods in Enzymology, 182: 738-751 (1991).
- C10 Stoorvogel, et al., "Characterization of the gene encoding quinoxaline protein ethanol dehydrogenase of Comamonas

testosteroni," Eur. J. Biochem., 235: 690-698 (1996).

- C11 "Alcohol dehydrogenase complex structural gene-used in plasmid and enhancing efficiency of acetic acid fermentation for transformed acetic acid bacteria," GENESEQ DATABASE, Accession No. R20192 (1992).
- C12 Tamaki, et al., "Cloning and sequencing of the gene cluster encoding two subunits of membrane-bound alcohol dehydrogenase from Acetobacter polyoxogenes," Biochim. Biophys. Acta, 1088: 292-300 (1991).
- C13 Kondo, K. and Horinouchi, S., "Characterization of the Genes Encoding the Three- Component Membrane-Bound Alcohol Dehydrogenase from Gluconobacter suboxydans and Their Expression in Acetobacter pasteurianus," Applied and Environmental Microbiology, 63(3): 1131-138 (1997).
- C14 Reid, M.F. and Fewson, C., "Molecular Characterization of Microbial Alcohol Dehydrogenases," Crit. Rev. Microbiol., 20(1): 13-56 (1994).

Applicants request that these documents be considered by the Examiner before issuance of a first office action on the merits and made of record in this file. The Examiner is also asked to initial and return a copy of the enclosed PTO-1449 form to evidence such consideration.

This Information Disclosure Statement is being filed in accordance with the following provisions:

- [x] 37 CFR § 1.97(b)(3) To the best of the undersigned's knowledge, before the mailing date of a first Office Action on the merits. No fee is required.

If it is determined that a fee is required as set forth in 37 CFR § 1.17(p) or if any additional fees are required, please charge such fee to Deposit Account No. 02-4467. A duplicate copy of this document is enclosed.

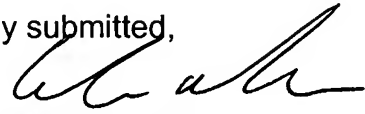
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 22, 2004.



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Respectfully submitted,

By: \_\_\_\_\_



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Form PTO-1449  
(Rev. )U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
13735 US1 (C038435/0176432)SERIAL NO.  
10/802,682INFORMATION DISCLOSURE STATEMENT  
BY APPLICANTAPPLICANT  
Akira ASAKURA, et al.

(Use several sheets if necessary)

FILING DATE  
March 17, 2004GROUP ART UNIT  
1646

## U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	A1	3,234,105	2/1966	Motizuki, et al.			
	A2	3,912,592	10/1975	Makover, et al.			
	A3	4,960,695	10/1990	Hoshino, et al.			
	A4	5,437,989	8/1995	Asakura, et al.			
	A5	5,352,599	10/1994	Fujisawa, et al.			
	A6	5,541,108	10/1975	Fujisawa, et al.			

## FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	B1	JP 51-40154	11/1976	Japan				
	B2	EP 0 221 707	5/1987	Europe				
	B3	EP 0 278 447	8/1988	Europe				
	B4	EP 0 606 621	7/1994	Europe				
	B5	EP 0 366 922	5/1990	Europe				
	B6	EP 0 645 453	3/1995	Europe				
	B7	EP 0 448 969 A2	10/1991	Europe				

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

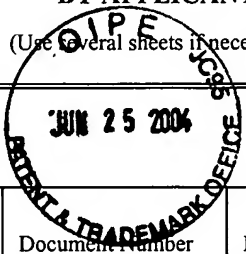
	C1	Zizheng, et al., "Studies on Production of Vitamin C Precursor 2-Keto-L-Gulonic Acid from L-Sorbose by Fermentation," <u>Acta Microbiologica Sinica</u> , 21(2), 185-191 (1981).
	C2	English language Abstract of JP 51-40154 (document B1).
	C3	Rudinger, "Characteristics of the amino acids as components of a peptide hormone sequence," In <u>Peptide Hormones</u> , Ed. J.A. Parsons, University Park Press, Baltimore, MD, pp. 1-7 (1976).
	C4	Ngo, et al., "Computational complexity, protein structure prediction, and the Levinthal paradox," In: <u>The Protein Folding Problem and Tertiary Structure Prediction</u> , Eds. Merz, et al., Boston, MA, pp. 491-495 (1994).
	C5	Thornton, et al., "Protein Engineering: Editorial Overview," <u>Current Opinion In Biotechnology</u> , 6(4): 367-369 (1995).
	C6	Wallace, "Understanding cytochrome c function: engineering protein structure by semisynthesis," <u>The FASEB Journal</u> , 7: 505-515 (1993).

EXAMINER

DATE CONSIDERED

Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 (Rev. )	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 13735 US1 (C038435/0176432)	SERIAL NO. 10/802,682
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use several sheets if necessary)		APPLICANT Akira ASAKURA, et al.	
		FILING DATE March 17, 2004	GROUP ART UNIT 1646



## U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate

## FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	C7	Maniatis, et al., Chapter 12: "Vectors that express cloned DNA in <i>Escherichia coli</i> ," In <u>Molecular Cloning: A Laboratory Manual</u> , Cold Spring Harbour Laboratory Press, pp. 404-433 (1982).
	C8	Matsudira, "Limited N-terminal sequence analysis," <u>Methods in Enzymology</u> , Vol. 182, pp. 602-613 (1991).
	C9	Wozney, "Using purified protein to clone its gene," <u>Methods in Enzymology</u> , 182: 738-751 (1991).
	C10	Stoorvoeg, et al., "Characterization of the gene encoding quinohaemoprotein ethanol dehydrogenase of <i>Comamonas testosteroni</i> ," <u>Eur. J. Biochem.</u> , 235: 690-698 (1996).
	C11	"Alcohol dehydrogenase complex structural gene-used in plasmid and enhancing efficiency of acetic acid fermentation for transformed acetic acid bacteria," <u>GENESEQ DATABASE</u> , Accession No. R20192 (1992).
	C12	Tamaki, et al., "Cloning and sequencing of the gene cluster encoding two subunits of membrane-bound alcohol dehydrogenase from <i>Acetobacter polyoxogenes</i> ," <u>Biochim. Biophys. Acta</u> , 1088: 292-300 (1991).
	C13	Kondo, K. and Horinouchi, S., "Characterization of the Genes Encoding the Three- Component Membrane-Bound Alcohol Dehydrogenase from <i>Gluconobacter suboxydans</i> and Their Expression in <i>Acetobacter pasteurianus</i> ," <u>Applied and Environmental Microbiology</u> , 63(3): 1131-138 (1997).
	C14	Reid, M.F. and Fewson, C., "Molecular Characterization of Microbial Alcohol Dehydrogenases," <u>Crit. Rev. Microbiol.</u> , 20(1): 13-56 (1994).

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